

Plagiocephaly (or NSDP/Flattened Head Syndrome)

What Is It and What Can You Do?

Julian Keel explains.

There is no doubt that the 'back to sleep' campaign has had a significant effect on reducing SIDS - there has been a 70% reduction in the number of cot deaths since the campaign's start in 1992. But the need to lay babies on the back of their heads has also seen a considerable rise in the incidence of plagiocephaly.

The term plagiocephaly is derived from the Greek words meaning 'oblique head', it is also known as flattened head syndrome, Non-synostotic deformational plagiocephaly (NSDP), or positional plagiocephaly. All these terms describe how part of a baby's head becomes flattened due to prolonged pressure on that part of it – usually the back of the head becoming flattened (brachycephaly) or one side of the back of the head flattening due to a positional preference – e.g. the baby preferring to lie with its head turned to the right.

Many healthcare workers will advise that a baby will 'grow out of this problem', that the baby's 'hair will cover the flat spot' or to 'watch and wait'. But for the ones where this advice doesn't help, the flattening continues to a point where eventually it is only possible to correct it with orthotic headwear.

The commonest advice is to try repositioning – continuing to lie the baby on the back, but encouraging head position away from the flat spot, and giving baby 'tummy-time' as often as possible when he or she is awake. Reducing time spent on other hard flat surfaces such as car seats and buggies is also advised.

As a chiropractor and cranial therapist who has a special interest in treating babies, many parents ask me why some babies get flat spots on their heads whilst others don't, even though they have all followed the 'back to sleep' rules. The answer to this question relates to the structure of babies' heads and spines, and the different types of forces they are exposed to before, during and after birth. It also explains why treatment of these areas, especially within the first 4-6 months, can help correct the problem.



Predisposing factors before birth can be due to inter-uterine constraint, mal-position e.g. breech, transverse lie, or multiple babies (twins, triplets etc). During birth, forces caused by a quick birth, prolonged labour, forceps, or non-progressing labour leading to ventouse extraction or emergency c-section, can contribute to stresses that may eventually lead to plagiocephaly. It is the delicate membranous tissues and cartilage of the neck and base of the cranium that are vulnerable to disruption by the effects mentioned above.

The baby may be born with no apparent visible side effects or may show a misshaped head and/or difficulty turning his or her head one way (torticollis) soon after birth. Then, as the baby's head grows, the flattening is exacerbated by continued pressure on the head whilst lying in the recommended back to sleep position. Once the flat spot develops, it then becomes easier for the baby's head to keep rolling onto it, thus continuing to pressure the same area. The flat spot may not start to become visible for a few weeks after birth. A condition known as cranial synostosis needs to be ruled out. Although much rarer than NSDP, it can present in a visibly similar way but must be referred on for medical treatment. The condition occurs when there is premature fusion of two or more cranial plates. An experienced chiropractic and cranial practitioner can spot the subtle differences and advise on the appropriate course of action.

Therapists like me believe it is therefore important to look at resolving the cause of the problem early on rather than watching and waiting. So, after a detailed history is taken and a thorough examination is made, assessment of the severity of plagiocephaly is carried out – looking at the extent of flattening and location, neck involvement, facial and forehead symmetry, and ear misalignment. Treatment is aimed at gently correcting the neck and cranial strain patterns and then encouraging sleep position safely away from the flattened area to allow the corrections to maintain. This may also include side lying using a special pillow.

Plagiocephaly is defined as a cosmetic problem and there has been no research to say that it is at all dangerous. However, a study has shown learning and developmental issues to be affected. Miller and Craven (2000) looked at the developmental outcomes of children with NSDP. 39.7% of children with NSDP in the study received special help in primary school. The authors concluded that children with NSDP comprised a high-risk group for developmental difficulties. Additionally, side effects such as abnormal jaw symmetry, eye symmetry, headaches, and ear problems may result if the flattening is left untreated.

Early chiropractic and cranial therapy can be very effective and will often be all that is needed. However, if treatment is not taken until later in a baby's life, helmets or bands are more likely to be required to aid physical correction of the head shape. Helmets or bands are custom made 'orthoses' designed to hold the areas of the head that are already overly large, while allowing the 'smaller' areas to grow. A specialist adapts the band at regular appointments for up to 4 months so that growth is directed at the areas of flattening. This seems to be providing an effective cosmetic

solution for a good many cases with no reported side effects. The head will look more symmetrically rounded, however, the underlying pattern of cranial and spinal distortion is not addressed. If a helmet or band is used, it has seen to be beneficial to use it in parallel with chiropractic and cranial treatment as it means the route cause can also be dealt with as well as the aesthetics and I have also seen it reduce the time that a helmet or band is needed.

All babies can benefit from the helping hands of someone who is trained in chiropractic and cranial treatment for paediatrics. And if there is any flattening, be it extreme or mild, they can advise as to whether anything is needed to be done. In our healthcare system not everyone is fully versed in plagiocephaly so if you feel at first your questions are left unanswered or you are met with the 'they'll grow out of it' response, search around until you get information that you really feel confident in.

A Richmond branch NCT member, Julian Keel is a registered chiropractor practising locally and offering chiropractic and cranial treatment for adults, babies and children. As well as an extensive sports injury and general rehabilitation background, Julian has a special interest in the care of the mother pre and post natally and the health of babies and children.

